Skydio X10D INTL: v37.1.182 - 22 October 2024

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Skydio X10D INTL version	37.1.182
Skydio X10D Controller INTL version	37.1.160

What's in this release

Increased situational awareness with improvements to system reliability and robustness:

- <u>Mavlink third-party radio support</u>
- <u>WiFi Enabled X10D Controller</u>
- <u>Radio Frequency Telemetry Data</u>
- Improved Battery Capacity Estimations
- Public Safety Lights

More efficient inspections of critical infrastructure:

- Button Mappable Exposure Compensation
- <u>Custom Media Folder</u>
- <u>Map Capture Enhancements</u>
- <u>3D Scan Enhancements</u>

Fixes and Improvements

MAVLink / RAS-A Compliance

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Robotics and Autonomous Systems – Air (RAS-A) MAVLink Control Link Interoperability Profile (IOP) compliance includes manual vehicle control, autonomous missions (waypoints), camera and payload control, vehicle-specific skills, radio link configuration, pairing configuration, and maintenance for integration with third-party controllers. Improvements to the Skydio X10D MAVLink interface to support compliance with RAS-A v1.1 and beginning to support RAS-A v1.2.



WiFi Enabled X10D Controller

Set the Skydio X10D controller to Online mode to connect to WiFi to download map files and connect to RTSP for live stream video feed. Toggle on to use the Internet and toggle off to retain flight security. Before managing your fleet, you must have your Skydio Cloud settings configured, such as adding users, claiming your Skydio vehicles, and connecting to wireless networks.

- Access updates
- Download maps
- Stream live video feed





- Healthy internet connection = green checkmark
- No Internet Connection = red x



Button Mappable Exposure Compensation

Quickly adjust the exposure compensation (EV+-) by mapping it to a button or D-pad direction on the Skydio X10D Controller. When you adjust EV with the capture menu closed, the brightness changes on-screen.

- Mappable to C1, C2, C3, L2, R2, Dpad-L, Dpad-U, Dpad-R
- Each EV+ press will increase by 0.5
- Each EV- press will decrease by 0.5



Radio Frequency Telemetry Data

Display the current radio frequency in the telemetry bar.

• Navigate to Global Settings > Display > Telemetry to select Radio Frequency.

Create a Custom Media Folder

Organize your media on the SD memory card, especially during long days spent capturing photos and videos of numerous scenes or structures. This will make it easier to review and process your media. Create the custom folder preflight or during flight, and your media will automatically be saved to the custom folder across flights and power cycles.

- Toggle on, and files will be saved in DCIM > [customfoldername]
- Toggle off (or toggle on with blank folder name entry): Files saved in the usual directory
- If you are recording a video and create a custom folder, you must stop recording and start recording again.
- This does NOT affect any photos captured in 3D Scan



Improved Battery Capacity Estimations

We have greatly improved the way we estimate the amount of battery capacity that is required to return and land. The battery capacity estimate considers vehicle aerodynamics, wind speed, headwinds, hovering, high-speed flight, autonomy power consumption, and attachments such as Spotlight and NightSense.

• The time required to return and land is now more accurate.

Update License in Fleet Manager for Offline Drones

Skydio has made managing offline drones, users, license assignments, and software update files easy through Skydio Fleet Manager for Offline Drones.

Public Safety Lights

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Public safety lights are visual warnings to alert others of urgency or hazards. Operators can select from options in the Lights Geetect and map a button to toggle on or off.

- Navigation = RGB
- **Police** = flashing red/blue
- Emergency = flashing red/white



MAP CAPTURE ENHANCEMENTS

NightSense Compatibility

NightSense is now supported when performing a Map Capture. The visual NightSense attachment allows you to complete a lowaltitude Map Capture in dark or low-light environments with obstacle avoidance enabled.

Note: NightSense is not supported in other capture modes.

Custom Flight Direction

Tailor your flight path to align with your area of interest for robust surveying and mapping.

- Select Edit Settings and enable the Custom Flight Direction toggle
- Use the arrows on-screen or enter a specific degree value

Perpendicular Camera Heading

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By default, the camera heading is aligned parallel to the direction the drone travels. Enable **Perpendicular Camera Heading** to adjust the camera to face perpendicular to the direction the drone is traveling.



Gimbal Pitch Down

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By default, the sensor package points straight down (nadir) during a Map Capture. Utilize the **Gimbal Pitch Down** slider to change this to an oblique angle.

- Drag the slider to adjust the degree value
- Previously, you could only adjust this angle if Cross Hatch was enabled

Note: Cross Hatch will use this angle when enabled, but Perimeter will not. You can set the camera angle when you enable Perimeter.

Maximum Speed Increase

To increase the efficiency of surveying and mapping the maximum lateral speed in Map Capture has increased from 11.2 mph (18 km/h) to 35.8 mph ().

• The default speed remains at 11.2 mph (57.6 km/h)



 Maximum speed when moving vertically remains at <u>11.2 mph</u> (18 km/h) for safety
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Note: To prevent motion blur, the actual speed may be slower than the selected maximum speed. The sensor (wide vs. narrow), altitude, and lighting conditions determine the speed. We do not recommend using Stop for Photo when flying at speeds higher than 11.2 mph (18 km/h)

3D SCAN ENHANCEMENTS

Switching between 3D Scan and Skills

X10D will no longer have to reboot when switching between 3D Scan and Skills flight modes.

AR Observer as a PIP Option

Previously, you had to enable the AR Observer within the AR Quick Action menu. Now, you can view the AR Observer by selecting the Picture-in-Picture (PIP) button in the bottom left of the Flight Screen.

• This means you can set the AR Observer as one of your views in the Single, Split, or Grid Display Layouts.



Compatibility with PIX4Dmatic



Skydio 3D Scans are now compatible with PIX4Dmatic. After each scan, a new .csv file called Pix4D_Matic_geolocation.csv wifemeact created. Upload this file when creating reconstructions with PIX4Dmatic.

Improved image and photogrammetry reconstruction quality

- When White Balance is set to Auto, the value is locked based on the first image of the scan. If you set a specific White Balance value, this will be used throughout the scan.
- The file **Pix4D_geolocation.csv ****has been renamed to **Pix4D_Mapper_geolocation.csv and is intended for use with PIX4Dmapper.
- The coordinate system for Height has changed from EGM96 Geodetic to WGS84 Ellipsoidal Height.
- The Capture Report now has a new image metadata field to associate RGB and IR images captured at the same waypoint.

FIXES & IMPROVEMENTS

Radiometric Thermal Camera

- To ensure that the bitrate adapts to optimize stream quality, we fixed an issue where the thermal stream bitrate was reduced after using the Picture-in-Picture (PIP) view.
- Resolved a known issue where radiometric readings were incorrect before launching.
- Enabled Auto Flat Field Correction (FFC) before the flight. You will hear light clicking as FFC occurs, indicating the sensor calibration is complete.

Descent Speed

• Descent speed while landing from high altitudes has increased to 9 mph (14 km/h) from 7 mph (11 km/h).

Joystick/Roller Input toggle

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Warning: Disabling this toggle disables joystick Cont functionality, possibly resulting in serious bodily injury and/or damage. You may only disable this toggle if you experience errors with the joystick controls, so proceed with extreme caution. Any injury and/or damage resulting from disabling this toggle is not covered under the Skydio Limited Warranty.

This new toggle is a safety precaution if you experience a hardware issue with the joysticks. If disabled, you can still use touchscreen inputs and buttons on the controller.

- Enabled by default
- Only disable if you experience errors with the joystick controls
- If this occurs, navigate to Global Settings > Flight Controls > Controls to disable

Sensor Package and System Updates

• Some operators experienced the notification *Updating Sensor Package* when the drone was powered on. This screen will now only display after sensor package installations, factory resets, or software updates.

System Fixes

- Image stabilization was not functioning correctly at higher zoom levels, causing zoom functionality to fail beyond 14x magnification. This issue is now resolved.
- Improved image stabilization at high zoom values in HDR mode.
- Resolved an issue where switching between multiple radio channels caused the drone to disconnect unexpectedly.
- Introduced a new prompt that alerts when excessive motor current draw is detected. If you see this alert, please land and contact Skydio Support.
- Internal components caused the drone to reboot during flight, resulting in a loss of connection. This issue has been



• Improved date and time synchronization ensures the drone accurately retrieves the date and time from the controller or GPS module.

KNOWN ISSUES

• Users may notice that recording starts after switching between photo and video modes. Select the record button to stop the recording.

Explore More

Explore related articles for additional information

Skydio X10D Manuals, Guides, and Resources



Note: If you need assistance, please reach out to FedSupport@skydio.us

Skydio, Inc. A0505

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